

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

<b>IN RE APPLICATION OF:</b>	)	
Akihiro Hironaka	)	Examiner:
<b>FILED:</b> 08/07/2006	)	AUNG, San M.
<b>SERIAL NO:</b> 10/551,835	)	
<b>DOCKET:</b> GUA UTO 415	)	Art Unit: 3657
<b>FOR:</b> HELICALLY-TOOTHED-BELT	)	
TRANSMISSION DEVICE	)	

**Pre-Appeal Brief Request for Review**  
**And Applicant's Remarks**

Mail Stop AF  
Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Examiner AUNG:

In response to the Final Office Action mailed 9/3/2009, Applicant requests review of the final rejection. No amendments are being filed with this request. This request is being filed with a notice of appeal.

The review is requested for the reasons stated on the attached sheets.

## REMARKS

### I. Introduction.

The Applicant requests review of the following clear errors in the rejection:

(1) the Motozaki et al. reference cited does not contain two needed elements for a prima facie §103(a) rejection of claim 1:

(i) the “helix angle” range relationship, and

(ii) the “backlash” range relationship; and

the rejection fails to include a reasonable rationale for their obviousness;

(2) the cited combination of the Motozaki et al. and the Wujick references does not contain a needed element (the “helix angle” range relationship) for a prima facie §103(a) rejection of claim 2;

(3) the Examiner’s response to Applicant’s arguments is unintelligible;

(4) the Examiner suggests he might have a §112 rejection in mind, but does not make the rejection explicit or even understandable.

These will be addressed in turn.

### II. Motozaki et al. lacks the helix angle range relationship of claim 1.

The Examiner rejected claim 1 under 35 U.S.C. 103(a) as being unpatentable over Motozaki A. et al. (JP 11-13840). See Non-Final Office Action mailed 12/9/2008 at page 2, ¶ 2, and Final Office Action mailed 9/3/2009 at page 2, ¶ 2. Claim 1 calls for a “tooth helix angle ‘ $\theta$ ’ set in a range of  $-0.2 \leq 1 - W \cdot \tan \theta / P_t \leq 0.75$ ” “when denoting a tooth pitch as ‘ $P_t$ ’, a tooth helix angle as ‘ $\theta$ ’, and a belt width ... as ‘ $W$ ’.” The Examiner admits that Motozaki et al. “fails to explicitly disclose” the same, but says it would have been obvious “to modify the pulley and belt system of Motozaki A. et al. according to the desire [sic] helix angle of helical belt and in order to provide optimal performance.” *Id.* at page 3. The rejection appears to be an improper application of the discussion on “Optimization of Ranges” found at MPEP § 2144.05 II. Motozaki et al. do not disclose the claimed relationship, or broad ranges of the three interrelated parameters, or any belt that falls within the claimed range, so this is not a case of “optimization within prior

art conditions.” MPEP § 2144.05 IIA. The Examiner must be referring to a “routine experimentation,” (MPEP § 2144.05 IIB) but he fails to establish from the prior art that helix angle is a result-effective variable, and he ignores the other two variables (Pt and W) (not to mention their interrelationship) which are an integral part of this claim limitation.

Since the limitation is not disclosed, a prima facie case is not established. Even under a theory of routine experimentation, the rejection fails to establish the necessary prerequisites for routine optimization of a result-effect variable(s).

### III. Motozaki et al. lacks the backlash range relationship of claim 1.

Claim 1 also calls for “a backlash ... set to be from 1.6% to 3% of said tooth pitch ‘Pt’.” The Examiner admits that Motozaki et al. only discloses that “backlash ... is small (paragraph 38).” Final Office Action at page 2. The rejection says nothing else about why the claimed specific range of backlash as a percent of Pt is obvious.

Since the limitation is not disclosed, a prima facie case is not established. Even if there is some prima facie basis assumed for the sake of argument, no rationale for obviousness is given, so the rejection is still incomplete and improper.

### IV. Motozaki and Wujick lack the helix angle range relationship of claim 2.

The Examiner rejected claim 2 under 35 U.S.C. 103(a) as being unpatentable over Motozaki A. et al. (JP 11-13840) and further in view of Wujick (US Patent 4,403,979). See Non-Final Office Action mailed 12/9/2008 at pages 2 & 3, ¶ 2, and Final Office Action mailed 9/3/2009 at pages 2 & 3, ¶ 2. Claim 2 calls for a “tooth helix angle ‘ $\theta$ ’ set in a range of  $1 - W \cdot \tan \theta / Pt \leq 0$ ” “when denoting a tooth pitch as ‘Pt’, a tooth helix angle as ‘ $\theta$ ’, and a belt width ... as ‘W’.” The Examiner admits that Motozaki et al. “fails to explicitly disclose” the same, and says nothing further about this claim element.” *Id.* at page 3. Therefore, since the limitation is not disclosed, a prima facie case of obviousness of claim 2 is not established.

V. The Examiner's response to Applicant's arguments is unintelligible.

The Applicant argued that Motozaki et al. taught away from using a range of backlash as found in claim 1 of the current application. See Applicant's Response After Non-Final Rejection dated 5/6/2009 at page 2, third para. The Examiner's response was to disagree and recite the same passage of Motozaki et al. ([0012]) as the Applicant had cited, but he offered no explanation of why his conclusion was the opposite of the Applicant's. See Final Office Action page 3, last para – page 4 first 2 lines. The Examiner did not address another passage (Motozaki et al. at [0024]) cited by the Applicant on the same point. See Applicant's Response After Non-Final Rejection dated 5/6/2009 at page 2, third para.

The Applicant argued that Motozaki et al. and Wujick were improperly combined, citing the different types of belts and the different problems addressed by the two references. See Applicant's Response After Non-Final Rejection dated 5/6/2009 at page 3 §3 second para. The Examiner picked up on one of the differences cited by the Applicant and stated that "Applicant did not disclose the limitation of ... in the claim." See Final Office Action page 4, third para. This response indicates a misunderstanding of the Applicant's argument, or is a totally incoherent response to the Applicant.

VI. the Examiner suggests a §112 rejection without making the rejection explicit or even understandable.

The Examiner states, twice (once for each claim), "the word [sic] 'when denoting' renders the claim indefinite," but no explicit rejection is given. Final Office Action page 4, second and fourth para.

Moreover, the reason given for this apparent rejection is incomprehensible as stated. The Examiner offers the explanation: "... indefinite, because the claim language of present invention does not explicitly define about what limitation of the backlash [or compressibility] when pitch is out of the recited range." *Id.* The Applicant is not sure where to start in critiquing this statement. There is no recited range for pitch in the subject claims. Why would one explicitly define a limitation relative to a parameter that is out of a recited range?

## VII. Conclusion

In light of the above errors, the Applicant respectfully requests that the rejection of both claims be withdrawn and both claims be allowed, or at least that the office action be withdrawn and a new non-final office action issued that addresses each error and gives the Applicant a reasonable chance to respond.

Respectfully submitted,

s/paul n dunlap/

Paul N. Dunlap

Attorney for Applicants

Reg. No. 52,840

Telephone: (303) 744-4156

Dated: November 25, 2009